

IN THE CLAIMS

Please cancel Claims 14-15 without prejudice.

1. (Previously Presented) Method of manufacturing a device with a magnetic layer-structure,

the method comprising the steps of:

- forming the magnetic layer-structure,

- heating the magnetic layer-structure with an electric current, characterized in that the electric current is a pulse having a duration such that no substantial heat transfer from the layer-structure to the environment of the layer-structure takes place, so that the temperature of said environment before and after the current pulse is substantially the same.

2. (Original) Method as claimed in claim 1, characterized in that the heat is transferred by means of heat conduction.

3. (Currently Amended) Method as claimed in claim 1 ~~or 2~~, characterized in that the electric current pulse is used to select a physical process in the layer-structure, the duration and amplitude of the pulse being adapted to the activation energy of this physical process.

4. (Original) Method as claimed in claim 3, characterized in that the selection of the physical process is improved by increasing the amplitude of the pulse and decreasing the pulse duration.

5. (Previously Presented) Method as claimed in claim 1, characterized in that a sequence of current pulses is applied

without substantial heat transfer from the layer-structure to its environment.

6. (Previously Presented) Method as claimed in claim 1, characterized in that the device (1) is a magnetoresistive device.

7. (Previously Presented) Method as claimed in claim 6, characterized in that the device is a sensing device.

8. (Previously Presented) Method as claimed in claim 1, wherein the magnetic layer-structure comprises at least one bias layer, characterized in that a magnetic field is applied during the short pulse, which magnetic field is switched off after the temperature of the bias layer has decreased to below the Néel or Curie temperature.

9. (Previously Presented) Method as claimed in claim 7, wherein the magnetic layer-structure comprises a first bias layer having a first antiferromagnetic material with a first blocking temperature and a second bias layer having a second different blocking temperature, characterized in that first the magnetization direction of the material having the higher blocking temperature is set and subsequently the magnetization direction is set of the material having the lower blocking temperature.

10. (Previously Presented) Method as claimed claim 1, characterized in that the duration of the electric current pulse is shorter than 100 ms.

11. (Previously Presented) Method as claimed in claim 8, wherein the device is used in the manufacture of a magnetic system having several magnetoresistive devices.
12. (Previously Presented) Method as claimed in claim 11, characterized in that at least four magnetoresistive devices are formed and arranged in a Wheatstone bridge configuration.
13. (Previously Presented) Method as claimed in claim 11, characterized in that the current pulse is applied for offset compensation by irreversibly changing the resistance of at least one of the bridge devices through local heating.
14. (Cancelled).
15. (Cancelled).